

ACKNOWLEDGEMENTS

The Lincoln-Lancaster County Health Department and Lincoln-Lancaster County Board of Health acknowledge **BryanLGH Medical Center** and **Saint Elizabeth Regional Medical Center** for their cooperation and commitment of staff time needed to provide this valuable injury assessment information to our community. These hospitals have provided injury coded medical record information to the Lincoln-Lancaster County Health Department since 1988, enabling the Department to monitor trends of local injury incidence for more than 10 years. The **Nebraska Health and Human Services System** is recognized for providing death certificate data associated with unintentional and intentional injury.

The Lincoln-Lancaster County Health Department staff contributing to the Injury Surveillance Report include Jeff Armitage, Epidemiology Technician, and Padmanabha Raju Kakarlapudi, Epidemiology Intern. Desktop publishing services were provided by Joyce Endres of the Health Promotion and Outreach Division.

Please direct comments or recommendations to:

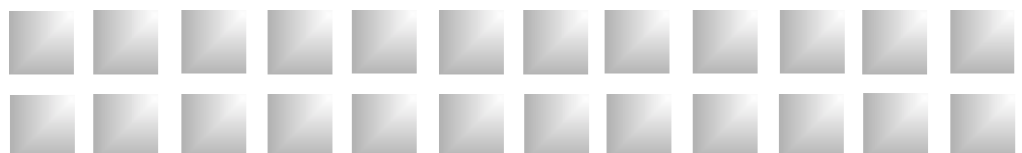
E-Mail: epi@ci.lincoln.ne.us

Telephone: (402) 441-8000

Fax: (402) 441-8323

Street Address: Lincoln-Lancaster County Health Department.
Epidemiology Division
3140 N Street
Lincoln NE 68510

Web Address: www.ci.lincoln.ne.us/city/health






TABLE OF CONTENTS

	Page
Table of Contents	iii-iv
List of Tables	v-vii
List of Figures	vix-xi
Executive Summary	xii-xvi
Definition of Terms	xvii-xviii
Introduction	1-2
Methodology	3-4
Injury Death	5-19
Overview	5
Injury Death Trends	6-7
Causes for Injury Deaths	8
Injury Death and Age	8
Injury Death and Gender	8
Intent of Injury Death	9-11
Unintentional Injury Death	12-14
Intentional Injury Deaths	15

Injury Events	21-45
Overview	21
Injury Event Trends	21-23
Cause of Injury Events	24
Injury Events and Age	25
Injury Events and Gender	25
Intent of Injury Events	25-26
Unintentional Injuries	27-30
Intentional Injuries	30
Injury and Patient Status	38
Injury and Days of Hospitalization	39
Injury and Hospital Disposition	40
Public Health Discussion.....	41-45
References	47
Appendices	49-58



LIST OF TABLES

Injury Death

Table 1.	Five Leading Causes of Death by Age	5
	Lancaster County, 1992-1998	
Table 2.	Frequency and Proportion of Injury Death by Cause	8
	Lancaster County, 1992-1998	
Table 3.	Frequency, Proportion, and Rate of Injury Death by Age	8
	Lancaster County, 1992-1998	
Table 4.	Intent of Injury Death by Age	10
	Lancaster County, 1992-1998	
Table 5.	Intent of Injury Death by Gender by Age	11
	Lancaster County, 1992-1998	
Table 6.	Frequency and Proportion of Unintentional Injury Death by Cause	12
	Lancaster County, 1992-1998	
Table 7.	Five Leading Causes of Unintentional Injury Deaths by Age, Sex	12
	and Age Specific Rates. Lancaster County, 1992-1998	
Table 8.	Five Leading Causes of Unintentional Injury Death by Age	13
	Lancaster County, 1992-1998	
Table 9.	Frequency and Proportion of Unintentional Injury Death by Gender by Cause	14
	Lancaster County, 1992-1998	
Table 10.	Five Leading Causes of Unintentional Injury Death by Gender by Age	14
	Lancaster County, 1992-1998	
Table 11.	Frequency and Proportion of Suicide by Cause	15
	Lancaster County, 1992-1998	
Table 12.	Frequency, Proportion, and Rate of Suicide by Age	15
	Lancaster County, 1992-1998	
Table 13.	Leading Causes of Suicide Death by Age	16
	Lancaster County, 1992-1998	
Table 14.	Frequency and Proportion of Suicide by Gender by Cause	16
	Lancaster County, 1992-1998	
Table 15.	Leading Causes of Suicide Death by Gender by Age	17
	Lancaster County, 1992-1998	
Table 16.	Frequency and Proportion of Homicide by Cause	18
	Lancaster County, 1992-1998	

Injury Death (Continued)

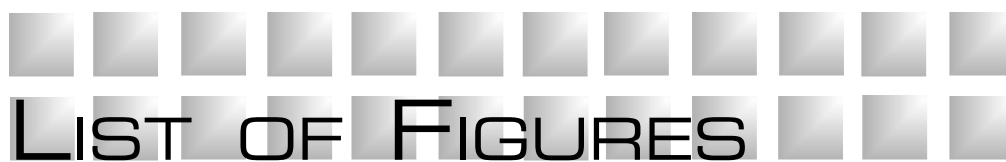
Table 17. Frequency, Proportion, and Rate of Homicide by Age	18
Lancaster County, 1992-1998	
Table 18. Five Leading Causes of Homicide by Age	18
Lancaster County, 1992-1998	
Table 19. Frequency and Proportion of Homicide by Gender by Cause	19
Lancaster County, 1992-1998	

Injury Events

Table 20. Frequency and Proportion of Injury by Cause	24
Lancaster County, 1992-1999	
Table 21. Frequency, Proportion, and Rate of Injury by Age	24
Lancaster County, 1992-1999	
Table 22. Intent of Injury by Age	26
Lancaster County, 1992-1999	
Table 23. Intent of Injury by Gender by Age	26
Lancaster County, 1992-1999	
Table 24. Frequency and Proportion of Unintentional Injury by Cause	27
Lancaster County, 1992-1999	
Table 25. Frequency, Proportion, and Rate of Unintentional Injury by Age	28
Lancaster County, 1992-1999	
Table 26. Five Leading Causes of Unintentional Injury by Age	28
Lancaster County, 1992-1999	
Table 27. Frequency and Proportion of Unintentional Injury by Gender by Cause	29
Lancaster County, 1992-1999	
Table 28. Five Leading Causes of Unintentional Injury by Gender by Age	30
Lancaster County, 1992-1999	
Table 29. Frequency and Proportion of Self-Inflicted Injury by Cause	31
Lancaster County, 1992-1999	
Table 30. Frequency, Proportion, and Rate of Self-Inflicted Injury by Age	32
Lancaster County, 1992-1999	
Table 31. Five Leading Causes of Self-Inflicted Injury by Age	32
Lancaster County, 1992-1999	
Table 32. Frequency and Proportion of Self-Inflicted Injury by Gender by Cause	33
Lancaster County, 1992-1999	

Injury Events (Continued)

Table 33. Leading Causes of Self-Inflicted Injury by Gender by Age	34
Lancaster County, 1992-1999	
Table 34. Frequency and Proportion of Assault Injury by Cause	34
Lancaster County, 1992-1999	
Table 35. Frequency, Proportion, and Rate of Assault Injury by Age	35
Lancaster County, 1992-1999	
Table 36. Five Leading Causes of Assault Injury by Age	35
Lancaster County, 1992-1999	
Table 37. Frequency and Proportion of Assault Injury by Gender by Cause	36
Lancaster County, 1992-1999	
Table 38. Leading Causes of Assault Injury by Gender by Age	37
Lancaster County, 1992-1999	
Table 39. Frequency and Proportion of Hospital Disposition by Gender	40
Lancaster County, 1992-1999	



LIST OF FIGURES

Injury Death

Figure 1. Nature of Injuries - Total Number	2
Lancaster County, 1992-1999	
Figure 2. Number of Deaths Vs Years of Potential Life Lost	5
Lancaster County, 1992-1998	
Figure 3. Injury Death Trend	6
Lancaster County, 1992-1998	
Figure 4. Injury Death Trend by Intent	6
Lancaster County, 1992-1998	
Figure 5. Injury Death Trend by Gender	6
Lancaster County, 1992-1998	
Figure 6. Injury Death Trend by Age Category	7
Lancaster County, 1992-1998	
Figure 7. Injury Death Trend by the Leading Causes of Injury Death	7
Lancaster County, 1992-1998	
Figure 8. Five Leading Causes of Injury Death	8
Lancaster County, 1992-1998	
Figure 9. Injury Death by Gender	8
Lancaster County, 1992-1998	
Figure 10. Proportion of Injury Deaths by Intent	9
Lancaster County, 1992-1998	
Figure 11. Leading Causes of Injury Death by Intent	9
Lancaster County, 1992-1998	
Figure 12. Injury Death by Gender and Intent	10
Lancaster County, 1992-1998	
Figure 13. Five Leading Causes of Unintentional Injury Death	13
Lancaster County, 1992-1998	
Figure 14. Unintentional Injury Death by Gender	13
Lancaster County, 1992-1998	
Figure 15. Four Leading Causes of Suicide	15
Lancaster County, 1992-1998	
Figure 16. Suicide by Gender	16
Lancaster County, 1992-1998	

Injury Death Continued


Figure 17. Five Leading Causes of Homicide	17
Lancaster County, 1992-1998	
Figure 18. Homicide by Gender	19
Lancaster County, 1992-1998	

Injury Events

Figure 19. Proportion of Injuries by Intent	21
Lancaster County, 1992-1999	
Figure 20. Injury Trend	21
Lancaster County, 1992-1999	
Figure 21. Unintentional Injury Trend	21
Lancaster County, 1992-1999	
Figure 22. Intentional Injury Trend	22
Lancaster County, 1992-1999	
Figure 23. Injury Trend by Gender	22
Lancaster County, 1992-1999	
Figure 24. Injury Trend by Age Category	23
Lancaster County, 1992-1999	
Figure 25. Injury Trend by the Leading Causes of Injury	23
Lancaster County, 1992-1999	
Figure 26. Five Leading Causes of Injury	24
Lancaster County, 1992-1999	
Figure 27. Injury Rate by Gender	25
Lancaster County, 1992-1999	
Figure 28. Leading Causes of Injury by Intent	25
Lancaster County, 1992-1999	
Figure 29. Injury by Gender and Intent	25
Lancaster County, 1992-1999	
Figure 30. Five Leading Causes of Unintentional Injury	27
Lancaster County, 1992-1999	
Figure 31. Unintentional Injury by Gender	29
Lancaster County, 1992-1999	
Figure 32. Five Leading Causes of Self-Inflicted Injury	31
Lancaster County, 1992-1999	

Injury Events Continued

Figure 33. Self-Inflicted Injury by Gender	33
Lancaster County, 1992-1999	
Figure 34. Five Leading Causes of Assault Injury	34
Lancaster County, 1992-1999	
Figure 35. Assault Injury by Gender	36
Lancaster County, 1992-1999	
Figure 36. Patient Status at the Time of Hospital Admission	38
Lancaster County, 1992-1999	
Figure 37. Proportionate Difference between Males and Females for Patient Status	38
at the Time of Hospital Admission	
Lancaster County, 1992-1999	
Figure 38. Days of Hospitalization	39
Lancaster County, 1992-1999	
Figure 39. Days of Hospitalization by Gender	39
Lancaster County, 1992-1999	
Figure 40. Disposition of Injured Patients after Hospital Discharge	40
Lancaster County, 1992-1999	



EXECUTIVE SUMMARY

The purpose of this report is to provide data to support the injury prevention efforts of the Lincoln-Lancaster County Health Department, policy makers, parents, and other stakeholders or agencies. This report discusses the injuries resulting in death and hospitalization among Lancaster County residents. The data associated with death covers the years between 1992 and 1998, whereas the hospital E-code data (injury events) range between 1992 and 1999.

Trends

Deaths resulting from injuries, in general, did not change significantly from 1992 to 1998 (104 deaths in 1992; 106 deaths in 1998). However, a sharp decline occurred in 1995. The death rates continued to increase every year since 1995 (35.6/10⁵ in 1996, 36.2/10⁵ in 1997, and 41.8/10⁵ in 1998). An inconsistent pattern was observed for unintentional injuries. Suicide rates showed little or no change, whereas homicide rates have continued to increase every year since 1994.

The rates of injury events increased significantly between 1992 and 1999 (9887.8/10⁵ in 1992; 12548.4/10⁵ in 1999). Both unintentional injuries and self-inflicted injuries increased from 1992 to 1999, whereas assault injuries declined over the same period. Self-inflicted injuries showed the greatest increase, which means that individuals in 1999 were 2.1 times more likely to suffer self-inflicted injuries than individuals in 1992.

Five Leading Causes of Unintentional Injury

Falls:

Falls were the leading cause of unintentional injuries in Lancaster County between 1992 and 1999. More than 46,000 Lancaster County residents sought hospital care for fall-related injuries. Falls accounted for nearly one out of every four unintentional injuries during this time period. Falls were the leading cause of unintentional injury in every age category except for the 15-19 and 20-24 year age categories. Females were more likely than males to suffer an unintentional fall injury. The highest unintentional falls injury rate occurred among females aged 85 and older. Unintentional falls were the leading cause of death among persons aged 75 and older, and overall the second leading cause of unintentional injury deaths during the seven year time period (1992-1998).

Struck by/against:

Struck by/against injuries were the second leading cause of unintentional injury events among the residents of Lancaster County between 1992 and 1999, resulting in over 25,000 hospital visits. It was the leading cause of unintentional injury events among the 15-19 age group, and the second leading cause of unintentional injury among the 0-14 and 20-24 age groups. Males were 2.1 times more likely than females to seek hospital care for an unintentional struck by/against injury. Struck/by against was the leading cause of injuries among men 10-34 years of age. Although struck by/against was the second leading cause of unintentional injuries, it was the ninth leading cause of unintentional injury deaths, resulting in seven deaths between 1992 and 1998.

Motor vehicle traffic:

Overall motor vehicle crashes were the leading cause of injury deaths between 1992 and 1998. Motor vehicle crashes were the leading cause of unintentional injuries among individuals 20-24 years of age. More than 22,000 Lancaster County residents visited hospitals for motor vehicle traffic-related injuries (unintentional) between 1992 and 1999. Females were more likely than males to sustain unintentional motor vehicle traffic-related injuries (the highest injury rate was seen in females 15-19); however, males were more likely to die from unintentional motor vehicle traffic injuries (highest death rate occurred among females 15-19 years old).

Cut/pierce:

Unintentional cut/pierce injuries caused more than 18,500 Lancaster County residents to seek hospital care between 1992 and 1999. During this period, cut/pierce-related injuries were the third leading cause of unintentional injuries among individuals aged 1-14 years. Males were 2.1 times more likely than females to seek hospital care for unintentional cut/pierce injuries. The highest rate of unintentional cut/pierce injuries was seen among males 15-19 years of age. Unintentional cut/pierce injuries resulted in no death to Lancaster County residents between the years of 1992 and 1998.

Overexertion:

Overexertion, the fifth leading cause of unintentional injuries (1992-1999), resulted in more than 17,000 Lancaster County residents to seek hospital care. Overexertion was the second leading cause of unintentional injuries among the 35-44 age group. Males were more likely than females to seek hospital care. The highest rate of unintentional overexertion injuries occurred among males 15-19 years of age (2%). Unintentional overexertion injuries resulted in no deaths to Lancaster County residents from 1992 to 1998.

Other causes of unintentional injury

Fire/burn:

Although, overall, fire/burn was the seventh leading cause of unintentional injury deaths, it was the leading cause of unintentional injury deaths among children 1-4 years of age. Between 1992 and 1999, more than 6,300 Lancaster County residents sought hospital care for fire/ burn-related injuries. Fire/burn was the third leading cause of unintentional injuries among children less than one year. In addition, males were 1.4 times more likely than females to seek hospital care for unintentional fire/ burn injuries. The highest rate of fire/burn injuries occurred among male children less than one year of age.

Pedal cycle, other:

More than 4,000 Lancaster County residents sought hospital care for unintentional pedal cycle injuries (1992-1999). Twenty-seven percent of unintentional pedal cycle injuries occurred among children 10-14 years of age. Males were 2.6 times more likely than females to seek hospital care for unintentional pedal cycle injuries. The highest rate of unintentional pedal cycle injuries occurred among males 10-14 years of age. One death resulted from unintentional pedal cycle injuries between 1992 and 1998.

Poisoning:

More than 4,000 Lancaster County residents sought hospital care for unintentional poison-related injuries between 1992 and 1999. One percent of infants (less than one year) received medical care as a result of unintentional poisoning. Little difference was noticed in rates between males and

females. While unintentional poisoning was the 11th leading cause of unintentional injuries, it was the fourth leading cause of unintentional injury deaths, resulting in 20 deaths between 1992 and 1998.

Self-inflicted injuries

Poisoning:

Poisoning was the leading cause of self-inflicted injuries. Self-inflicted poisoning caused more than 1,600 Lancaster County residents to receive hospital care for their injuries (1992-1999). Poisoning accounted for 67 percent of all self-inflicted injuries. With the exception of children 5-9 years of age, poisoning was the leading cause of self-inflicted injuries among all age categories. Females were twice as likely as males to seek hospital care for self-inflicted poisoning injuries. The highest rate of self-inflicted poisoning appeared among females 15-19 years of age. Poisoning was the second leading cause of suicide (self-inflicted injury death), resulting in 57 deaths to Lancaster County residents between 1992 and 1998.

Cut/pierce:

Nearly 500 Lancaster County residents received hospital care for self-inflicted cut/pierce injuries between 1992 and 1999. With approximately 20 percent of all self-inflicted injuries, cut/pierce was the second leading cause of self-inflicted injuries. It was also the second leading cause of self-inflicted injuries in individuals 10-84 years of age. Rates of self-inflicted cut/pierce injuries varied slightly between males and females. The highest rate of self-inflicted cut/pierce injuries occurred among females 15-19 years of age. Only 1.5 percent of all suicide deaths resulted from cut/pierce.

Suffocation:

Forty-three Lancaster County residents received hospital care for self-inflicted suffocation injuries (1992-1999). Suffocation accounted for less than two percent of all self-inflicted injuries, and was the third leading cause of self-inflicted injuries among 10-54 age group. Males were 8.4 times more likely than females to receive hospital care for self-inflicted suffocation injuries. Although suffocation accounted for only two percent of all self-inflicted injuries, it accounted for 17 percent of all suicides. Of the 34 suicides committed by suffocation (1992-1998), 27 were committed by males and 7 were committed by females.

Falls:

A total of 19 Lancaster County residents received hospital care for self-inflicted injuries resulting from falls. Falls were the fourth leading cause of all self-inflicted injuries. Males were more likely than females to receive hospital care for self-inflicted falls. The highest rate of self-inflicted falls was seen among males 35-44 years of age. Falls resulted in no suicide deaths between 1992 and 1998.

Firearms:

While more than 50 percent of suicides resulted from the use of firearms, only a very small proportion of injuries (1%) resulted from this mechanism. Males were 3.3 times more likely than females to die from self-inflicted firearm injuries. Although the highest number of firearm related deaths were seen among males 25-44 age group (n=33), the rates were the highest among males 75-84 years of age. Eighteen Lancaster County residents received hospital care for self-inflicted firearm-related injuries (1992-1999). Firearms were the fifth leading cause of self-inflicted injuries (1% of those injuries). Males accounted for 15 of the 18 self-inflicted firearm injuries. Males 25-34 years of age had the highest rate of self-inflicted firearm injuries.

Assault

Struck by/against:

More than 4,700 Lancaster County residents (1992-1999) received hospital care for assault-related struck by/against injuries. With 76 percent of all assault injuries, struck by/against was the leading cause of injuries within all age categories. Males were 1.8 times more likely than females to seek hospital care for their injuries. The highest rate of injuries due to struck by/against was seen among males 15-19 years of age. While struck by/against accounted for the majority of assault injuries, it only accounted for a 2.4 percent of homicide deaths: causing only one death in a seven-year period (1992-1998).

Cut/pierce:

Approximately 400 Lancaster County residents obtained assault related cut/pierce injuries between 1992 and 1999, (accounting for 6% of all assault injuries). Cut/pierce was the second leading cause of assault related injuries among nine of thirteen age categories. In addition, males were 4.7 times more likely than females to have received hospital care resulting from a cut/pierce related assault injury. The highest rate of cut/pierce assault injuries (among all sub-groups) was seen among males 20-24 years of age. Between 1992 and 1998, eight Lancaster County residents died from homicidal cut/pierce related injuries. Cut/pierce accounted for nearly 20 percent of all homicide death.

Firearm:


Fifty-six Lancaster County residents received hospital care for a firearm-related assault injury between 1992 and 1999. The majority of firearm related assault injuries occurred to residents between 10 and 44 years of age. Males were three times as likely as females to obtain injuries from firearm related assaults, and accounted for 42 of the 56 injuries. Males 15-19 years of age, accounted for the highest rate of assault injuries by firearm. Firearm, which produced 15 deaths between 1992 and 1998, was the leading cause of homicide. Eleven of these deaths occurred among males: making them significantly more likely than females to die from homicidal firearm related injuries.

Poisoning:

Poisoning accounted for less than one percent of assault related injuries (19 injuries) between 1992 and 1999. Poisoning was the third leading cause of assault injuries among children 1-4 years of age. The majority of injuries (12 of 19) were sustained by females. Homicidal poisoning accounted for three deaths among Lancaster County residents between 1992 and 1998 (7% of all homicide).

Suffocation:

Suffocation associated with homicide accounted for five deaths (12 %) of all homicides between 1992 and 1998. Suffocation related assault injuries sent 16 (7 men and 9 women) Lancaster County residents to the hospital between 1992 and 1999. These injuries accounted for less than one percent of all assault injuries, and produced, on average, two hospital visits per year to Lancaster County residents.



DEFINITION OF TERMS

Adverse Effects of Drugs:

Reaction to correct drug properly administered in therapeutic or prophylactic dosage.

Adverse Effects of Medical Care:

Injuries resulting from unintentional cut, puncture or perforation during medical care, foreign object left in body during the procedure, failure of sterile precautions, mechanical failure of instrument during procedure, contaminated blood.

Cut/Pierce (E Codes: E920.0-9, E956, E966, E974, E986):

Injuries resulting from cutting and piercing instruments including: knives, swords, daggers, power lawn mowers, power hand tools, household appliances.

E-Code:

International Classification of Disease (ICD) by external cause of injury. The surveillance system uses the clinical modification (CM) of the ICD-9, developed by the National Center for Health Statistics.

Emergency Care:

Individuals receiving care from emergency room.

Falls (E Codes: E880.0-E886.9, E888, E968.0-9):

Injuries resulting from falls involving: stairs, escalator, ladders, scaffolds, out of building, into hole, from one level to another, playground equipment, cliff, bed, slipping, tripping and collision with other person. Excludes falls in sports and from transport vehicles.

Fire / Burn (E Codes: E890.0; E899; E924.0-9, E958.1,2,7; E961; E968.0,3; E988.1,2,7):

Injuries resulting from fire and flames and from hot objects and substances. It does not include burns from electric current, from exposure to radiation from infrared heaters and lamps, from ultra-violet light sources or from explosions of combustible material.

Fire Arms: (Ecodes: E992.0-9; E955.0-4; E965.0, .4; E970, E985.1-4):

Injuries resulting from fire arms, including unintentional, suicide, homicide, legal intervention and undetermined intent. It does not include explosives.

Homicide/Assault:

Death or injuries inflicted by another person with intent to injure or kill.

Hospital Care:

Medical attention given as inpatient, outpatient, emergency care, admittance, short stay or roll-over patient status.

Motor Vehicle Traffic or (MVT): (E Codes: E810.0-E819.9; E958.5; E988.5):

Injuries involving automobiles, vans, trucks, motorcycles and other motorized cycles known or assumed to be traveling on public roads and highways. It does not include injuries or deaths judged to be suicide, intentional, intent undetermined or occurred off road.

Incidence Rate:

The number of new cases per 100,000 population.

Inpatient:

Individuals in hospital care for longer than 24 hours, including: inpatient, admittees and roll-over status.

Natural/Environmental Factors: (E Codes: E900.0-E909; E928.0-.2; E958.3; E988.3):

Injuries resulting from adverse environmental conditions, including: excessive heat, excessive cold, high and low air pressure, exposure to weather conditions, cataclysmic storms (tornados, floods, hurricanes), cataclysmic land movement (earthquakes, landslides, avalanches, tidal waves), and animal/insect bites and stings.

Outpatient:

Individuals in hospital care for less than 25 hours including: outpatient and short stay status.

Overexertion: (E Codes: E927):

Injuries resulting from excessive physical exercise, strenuous movements in recreational activities, from lifting, pulling or pushing.

Pedal Cycle: (E Codes: E800-E807 (.3); E820-E825 (.6); E826.1, .9):

Injuries resulting from bicycle, tricycle or any other pedal pushed vehicle. It does not include injuries involving motor vehicle traffic incidents.

Poisoning: (E Codes: E850.0-E869.9; E950.0-E952.9; E962.0-.9; E972, E980.0-E982.9):

Injuries resulting from drugs, other medicinal substances, gases, alcohol, disinfectants, cleansers, paints lubricants, insecticides, herbicides, fungicides, fumigants, corrosives, caustics. It does not include drugs, medicinal and biological substances causing adverse effects in therapeutic use.

Struck By/Against: (E Codes: E916-E917.9; E960.0; E968.2; E973; E975):

Injuries resulting from being struck by or striking against objects or persons, including falling objects, struck by another person, blunt or thrown object, injuries sustained in an unarmed fight or brawl. It does not include intentional jumping or lying before a moving object.

Suicide/Self-Inflicted Injuries:

Injuries or death inflicted by a person with the intent to cause injury or death to him/herself.